

J. KELLER.
VIEW CHANGING DEVICE FOR MAGIC LANTERNS.
APPLICATION FILED MAY 4, 1907.

914,728.

Patented Mar. 9, 1909.
2 SHEETS—SHEET 1.

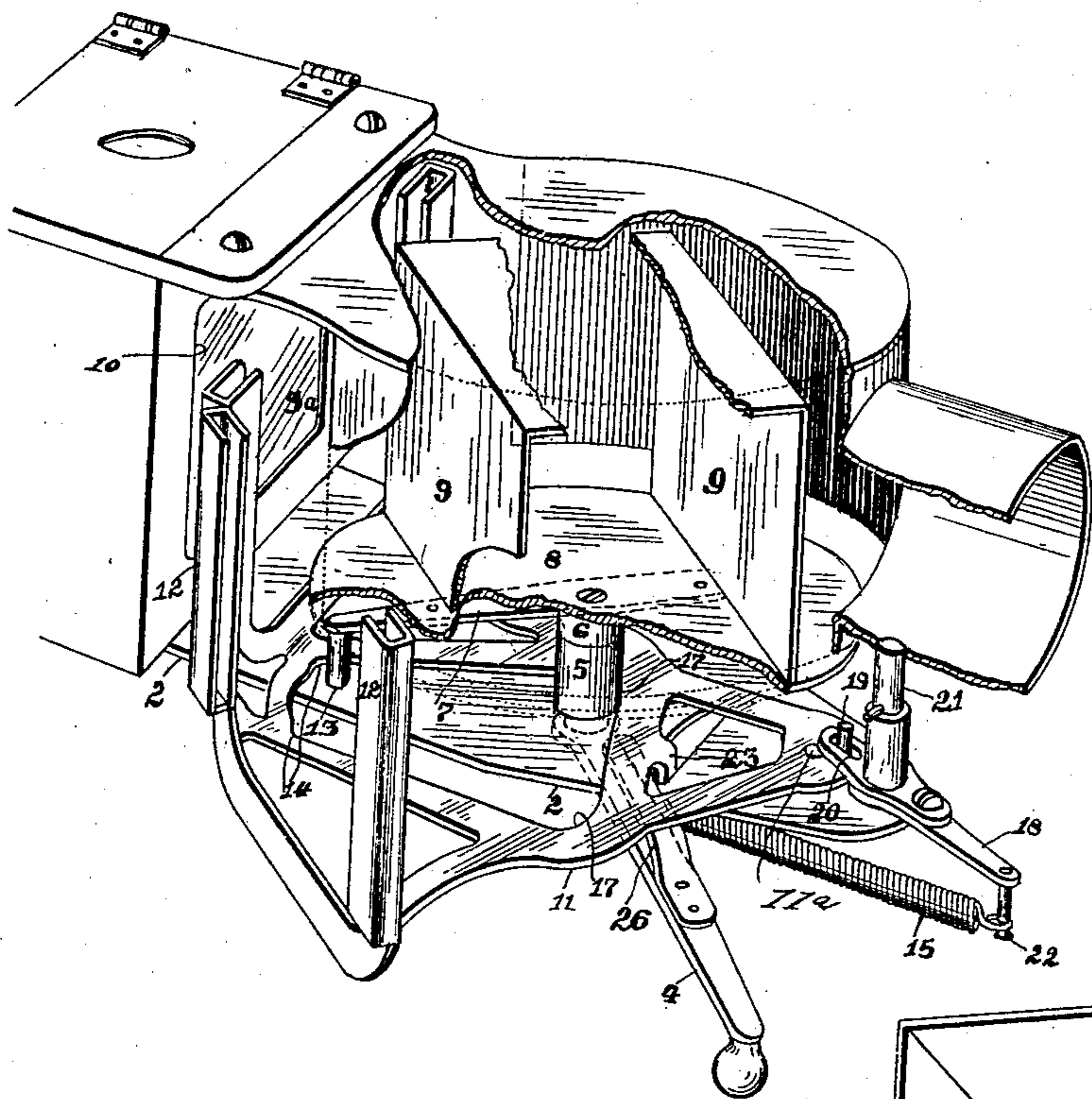


Fig. 1.

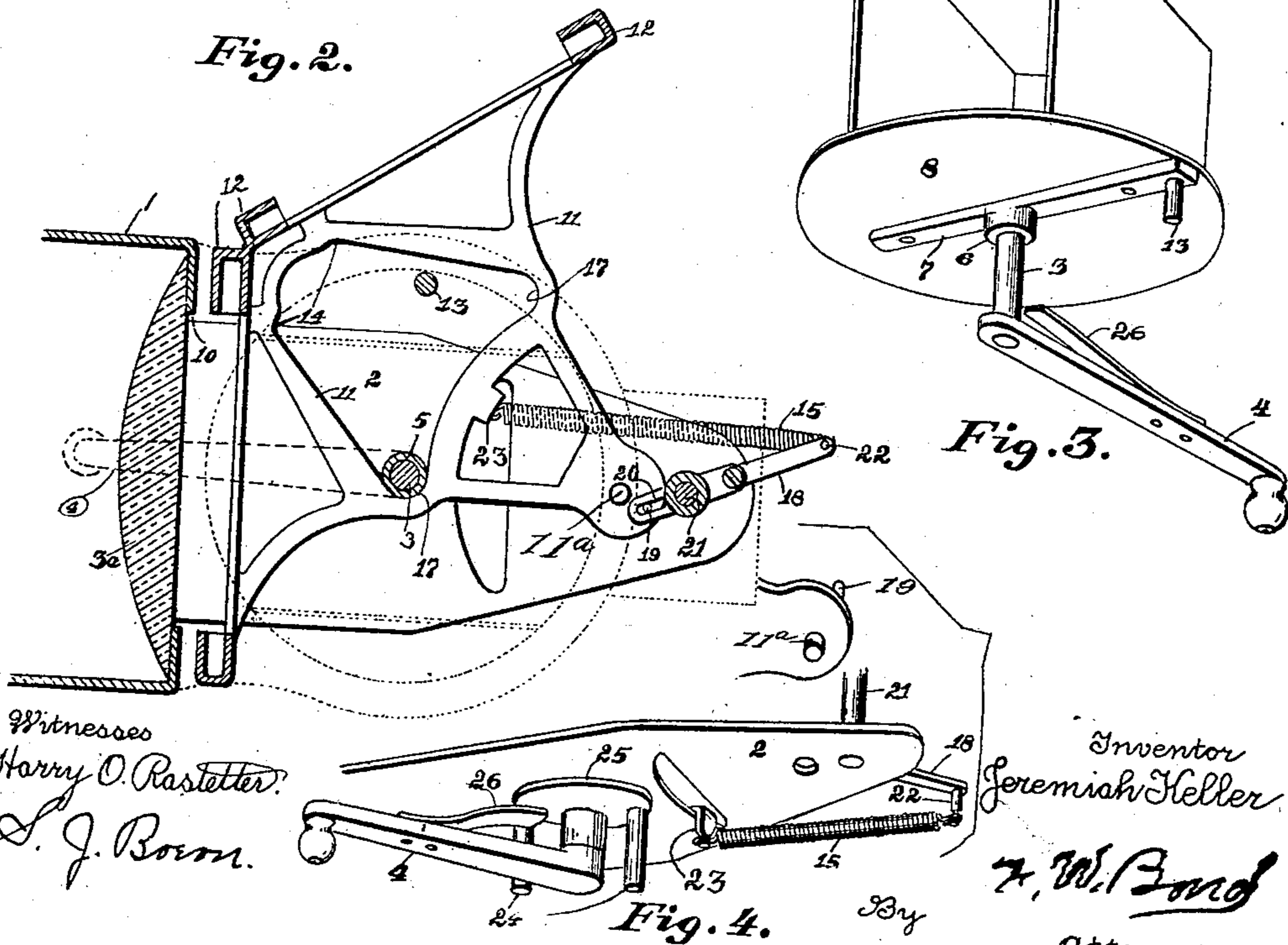


Fig. 2.

Fig. 3.

Fig. 4.

Witnesses
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Fig. 5.

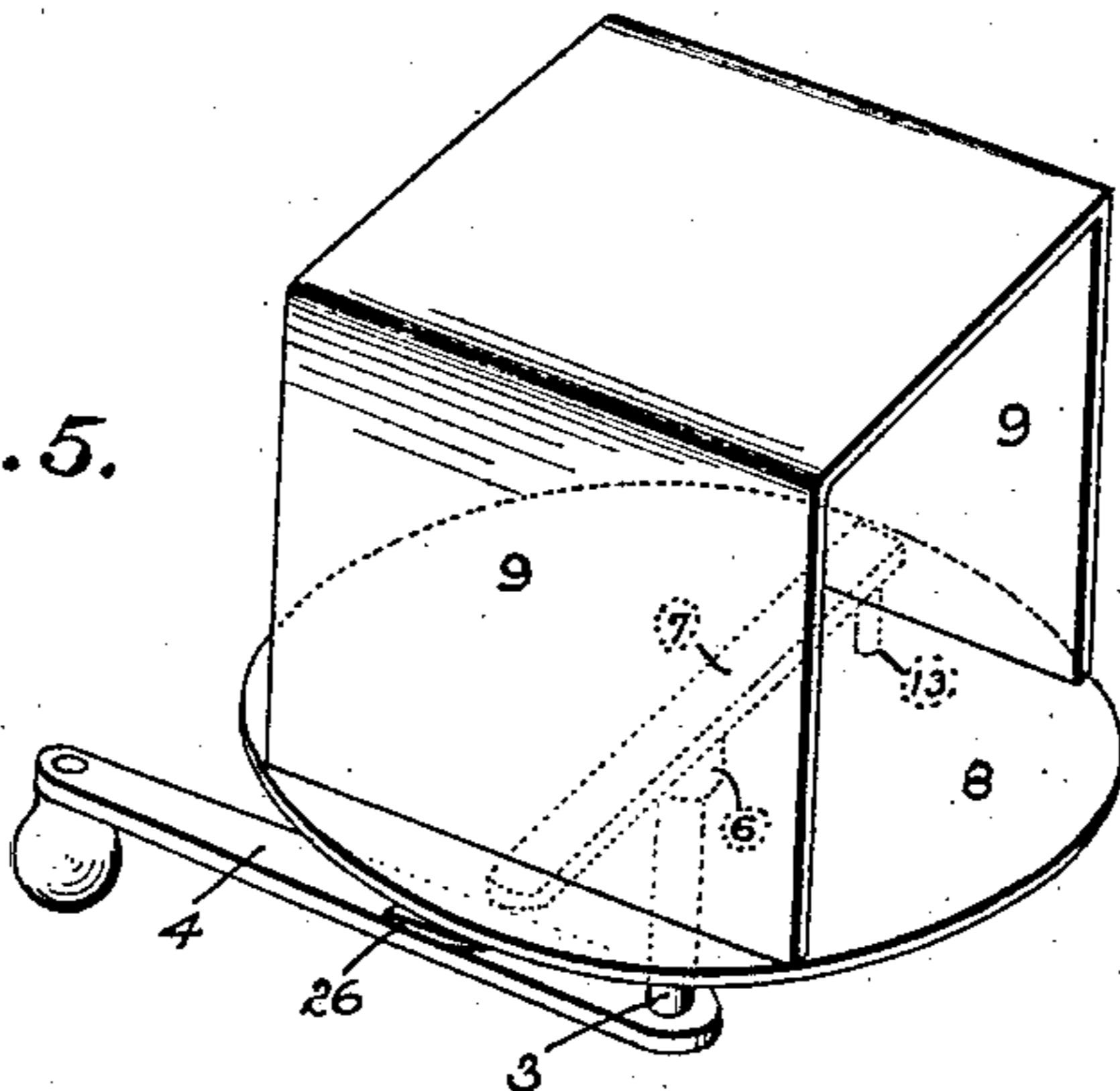


Fig. 6.

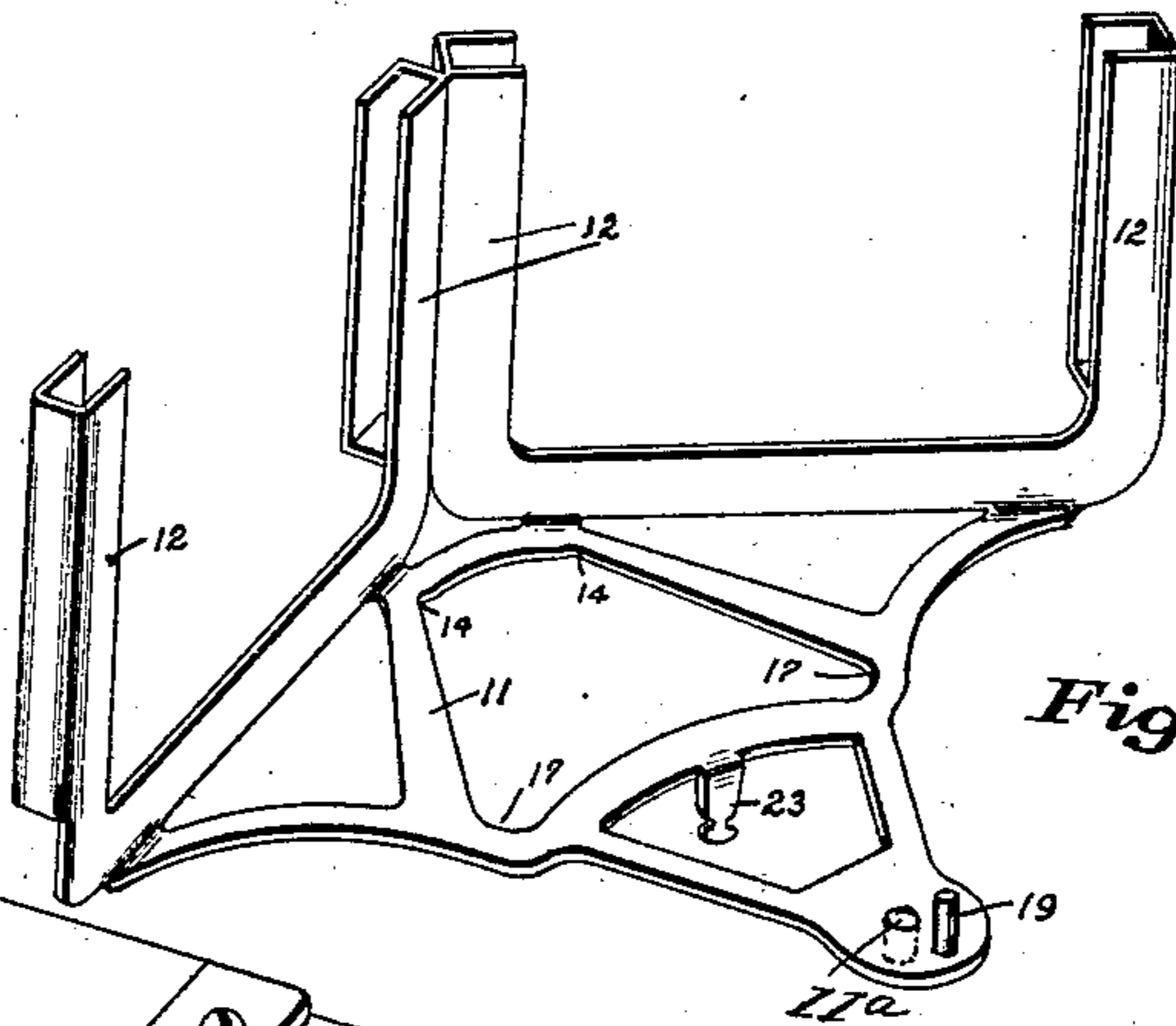
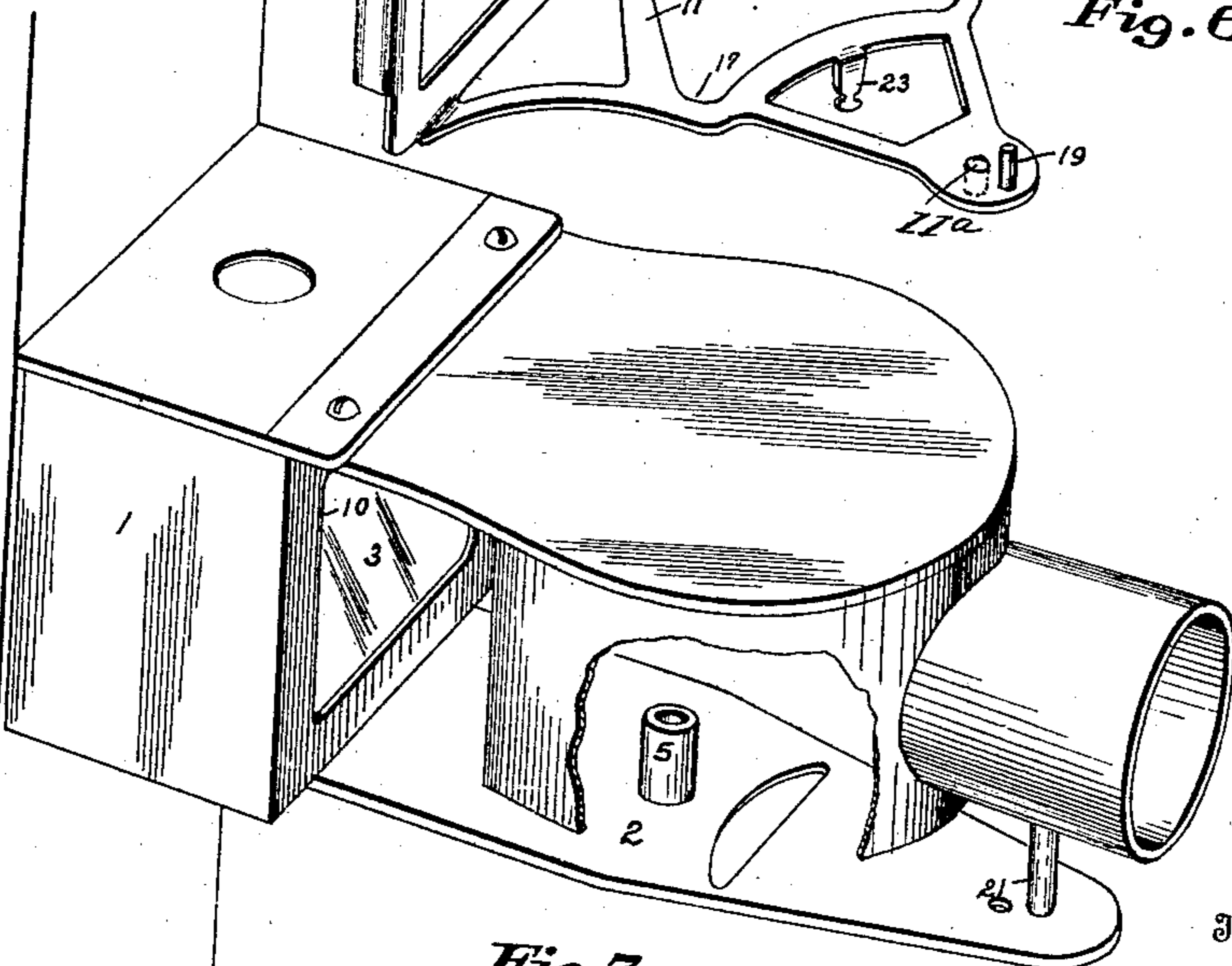


Fig. 7.



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UNITED STATES PATENT OFFICE.

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VIEW-CHANGING DEVICE FOR MAGIC LANTERNS.

No. 914,728.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed May 4, 1907. Serial No. 371,816.

To all whom it may concern:

Be it known that I, JEREMIAH KELLER, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in View-Changing Devices for Magic Lanterns; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, making a part of this specification, and to the figures of reference marked thereon, in which—

Figure 1 is a perspective view showing parts broken away. Fig. 2 is a top view of the picture moving bracket, showing the lens casing in section and the picture carrying flanges in section. Fig. 3 is a detached view of the disk, its operating handle and the shutter blades. Fig. 4 is a perspective view of the carrying plate showing the handle and stop springs, also showing the tension spring properly connected. Fig. 5 is a detached view of the shutter disk showing the shutters in a different position from that shown in Fig. 3. Fig. 6 is a detached view of the view or picture carrying bracket. Fig. 7 is a perspective view of the lens casing showing the movable parts designed to be connected thereto removed.

The present invention has relation to a view changing device for magic lanterns and it consists in the novel arrangement hereinafter described and particularly pointed out in the claims.

Similar characters of reference indicate corresponding parts in all the figures of the drawing.

In the accompanying drawing, 1 represents the lens case or frame, which is constructed in the ordinary manner and is provided with the usual devices employed in stereopticon apparatus, but the case within itself forms no particular part of the present invention. To the lens case or frame 1 is connected the plate 2, which plate is extended forward of the lens 3^a any desired distance, and may be of the form shown or it may be of any other desired form as the objects and purposes hereinafter described can be carried out without any reference to the shape of the plate 2. Through the plate 2 extends the rock shaft 3, which rock shaft is provided at its bottom or lower end with the handle 4. Upon the rock shaft 3 is located the sleeve 5, the bottom or lower end of which rests upon the plate 2, and upon the top or

upper end of the sleeve 5 is located the bottom or lower end of the hub 6, which hub is preferably formed integral with the bar 7 or its equivalent. To the bar 7 is attached the disk 8, to which disk are attached the shutter blades 9, which shutter blades are located parallel with each other and are spaced from each other a distance equal or practically equal to the width of the lens opening 10 formed in front of the lens 3^a.

While I have illustrated the shutter blades 9 as connected to the circular disks 8, this is simply conventional inasmuch as the part carrying the shutter blades need not necessarily be of any specific construction, but of such construction that it will support in proper relationship and position the shutter blades 9.

Upon the plate 2 is located the skeleton bracket 11, which skeleton bracket is provided with the picture carrying bars 12, which are grooved for the purpose of holding the picture in proper position when placed into position to be brought in front of the lens 3^a.

To the bottom or underside of the bar 7 or its equivalent is attached the pin 13, which pin is for the purpose of engaging the skeleton bracket. When it is desired to shift a picture the handle 4 is moved in the desired direction, which in turn moves the bar 7 together with the shutter blades 9 and when the pin 13 engages the skeleton bracket at the points 14, said pin will carry said skeleton bracket with the handle 4, but no movement of the bracket 11 will take place until the pin engages one of the points 14, but during the time the pin is moving toward either of the points 14, the shutter blades 9 will move to or assume the position illustrated in Fig. 1, by which arrangement the entire light is cut off. But before the skeleton bracket has been moved by the pin 13 so as to bring a picture into full view it will be thrown to one side of its pivotal point, at which time the spring 15 automatically moves the skeleton bracket into full position and the bracket is stopped by reason of coming in contact with the sleeve 5 or its equivalent, the bracket being provided with the recesses 17 and for the purpose of bringing the spring into position to actuate the skeleton bracket, the rock bar 18 is provided which rock bar is actuated by the pin 19, which pin is secured to the skeleton bracket 11, a short distance in front of its pivotal point 11^a. The rock bar 18, is

formed with a slot through which the pin 19, passes, and said rock bar is pivotally mounted on the post 21.

It will be understood that the rock bar 18 will be rocked in the opposite direction from the skeleton bracket so as to throw the front or forward end of the rock bar 18 into position to bring the spring 15 into position to automatically rock the skeleton bracket, said spring being attached at its forward end to the pin 23 or its equivalent. By this peculiar arrangement the picture desired to be thrown upon a canvas will be brought into position prior to the time the shutter blades are brought into position to throw the picture and in order to bring the picture into view the handle is carried in the direction to bring the shutter blades into the position illustrated in dotted lines Fig. 2, which is their position during the time a picture is being thrown upon the canvas. By providing the two shutter blades and spacing them from each other a distance equal or substantially equal to the width of the opening in front of the lens both blades are utilized in closing the opening; thereby greatly reducing the movement of the shutter blades in fully closing and opening the opening in front of the lens. By providing the skeleton bracket, and connecting the spring 15 to the lip 23, which lip is connected to or formed integral with the skeleton bracket, said spring will automatically bring the skeleton bracket to proper adjustment and hold said skeleton bracket in such a manner that the picture carried by the bracket and to be located in front of the lens opening will not be moved nor will there be any vibration or trembling of the picture during the time the shutter blades are being opened.

It will be understood that when a picture is being withdrawn from in front of the lens the shutter blades will be first brought into position to cut off the light before there is any movement of the picture and the light will remain cut off until the picture designed to be thrown upon the canvas is set and held in position, after which the light is thrown upon the canvas without any movement of the picture.

For the purpose of stopping the shutter blades in their opened position the stop pins 24 are provided, which stop pins are located upon the bottom or underside of the plate 2 or the disk 25 as desired. For the purpose of holding the handle 4 together with the different parts operated by the handle said handle is provided with the spring 26, which spring presses against the underside of the disk 25.

It will be understood that by providing two shutter blades and spacing them from each other that the entire light can be cut off at any time independent of the movement of the picture carrier. This result is accom-

plished by substantially one half the movement required where a single blade is employed; by which arrangement I am enabled to cut off the entire light without disturbing the fixed position of the picture. I am also enabled to throw the full picture upon the canvas at any time during the time the picture is in position by a slight movement of the handle, thereby greatly reducing the time in manipulating the shutter blades, which is of great importance in the proper manipulation of magic lantern views. I am also enabled to almost instantaneously bring a newly set picture into view and to instantaneously cut the picture from the canvas.

It will be understood that in cutting off the picture from view by use of the spaced shutter blades the opening is closed toward its center and it is only necessary to move each shutter blade a distance equal to one-half of the lens aperture or in other words it is only necessary to interpose one-half the surface of each blade between the canvas and the lens opening.

Having fully described my invention what I claim as new and desire to secure by Letters Patent, is—

1. In a view changing device for magic lanterns, a lens-frame, shutter blades held in fixed relative spaced position from each other, a movable support for said shutter blades, a picture carrying bracket adapted to move with the moving support of the picture blades and adapted to move independent of the shutter blade support and shutter blades and means carried by the shutter blade support to move the picture carrying bracket, substantially as and for the purpose specified.

2. In a view changing device for magic lanterns, a lens frame, shutter blades held in fixed relative spaced position from each other, a movable support for said shutter blades, a picture carrying bracket adapted to move in the path of the shutter blades and with said shutter blades independent of the movement of the shutter blades and means carried by the shutter blade support to move the picture carrying bracket, substantially as and for the purpose specified.

3. In a view changing device for magic lanterns, a frame and a lens therefor, shutter blades spaced from each other and means for supporting said shutter blades, a picture carrying bracket, said bracket and shutter blades adapted to move in the same plane, the picture carrying bracket having simultaneous movement with the movement of the shutter blades and a further independent movement of the shutter blades, substantially as and for the purpose specified.

4. In a view changing device for magic lanterns, a lens frame carrying a lens and a lens opening therefor, a plate extended forward of the lens opening, spaced shutter

blades, a rock shaft adapted to support the shutter blades, stops adapted to limit the movement of the shutter blades, said shutter blades operatively attached to the rock shaft, 5 a picture carrying bracket located upon the plate forward of the lens opening, a rock bar pivotally connected to the plate, a spring connected to the said rock bar and to the picture carrying bracket, substantially as 10 and for the purpose specified.

5. In a view changing device for magic lanterns, a lens frame carrying a lens and a lens opening therefor, a plate extended forward of the lens opening, a rock shaft journaled in said plate and provided with a 15 handle, stops adapted to limit the movement of the handle, shutter blades spaced

from each other and a support for said shutter blades, a picture carrying bracket movable upon the plate and in the same plane as 20 the shutter blades, a rock-bar pivotally mounted upon the plate carrying the picture carrying bracket adapted to be actuated for a portion of its movement by means carried by the shutter blade support and a spring 25 adapted to actuate the rock bar, substantially as and for the purpose specified.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

JEREMIAH KELLER.

Witnesses:

J. A. JEFFERS,
F. W. BOND.